

Remarks/Arguments

As noted above, this Amendment is accompanied by a Petition For Revival Of An Application Abandoned Unintentionally Under 37 CFR 1.137(b). Reconsideration and reexamination are respectfully requested.

For the convenience of the Examiner, Applicants note that United States Application No. 09/528,396, filed March 20, 2000 is the priority document for the present application and contained claims 1-35. Claims 1-14 were allowed and issued as United States Patent No. 6,409,493, directed at an apparatus for forming a thin shell having an inner and an outer layer.

Claims 15-35 were then the subject of United States Application No. 10/138,630, filed May 3, 2002. Claims 15-24 were allowed as United States Patent No. 6,709,619, directed at the method of forming a thin shell having an inner and an outer layer.

Claims 25-35 were then made the subject for this presently pending United States Application No. 10/797,247. Claims 25-35 remain in the application.

Independent claims 25, 28 and 32 have been amended to recite that they stand directed to automotive interior trim panels formed by double cast slush molding. Support can be found at page 7, lines 9-13 which recite that the invention is directed at a shell for an automotive trim panel having an outer layer and an inner layer wherein the outer layer comprises a first polymer material and the inner layer comprising a second polymer material. In addition, attention is directed to page 1, lines 1-2 which recite that the invention stands directed at slush molding a shell having an outer and inner layer. Finally, attention is directed to page 2, lines 3 which recite that slush molding includes a double cast method. No new matter has been entered.

Independent claim 28 has also been amended to recite the feature that with respect to the second polymer material, which forms the inner layer, such second polymer material comprises two or more different polymer formulations, and that the formulations differ with respect to the polymer component of said formulations. Such feature was recited and incorporated from dependent claim 29. Accordingly, no new matter has been entered.

New dependent claims 36-38 have been entered which recite a range of thickness of the outer layer. Support can be found at page 18, lines 15-19 which recite that the outer layer may have an average thickness in the range of between and include 0.005 inches to 0.025 inches. No new matter has been entered.

Dependent claims 26, 27, 30, 31 and 34 have been amended to be consistent with the amendments to the independent claims. Accordingly, it is believed that no new matter has been entered.

Claim 35 has been cancelled.

The Examiner has objected to the title of the Application. The title now reads "**DOUBLE CAST SHELL HAVING AN INNER AND AN OUTER LAYER.**" No new matter has been entered and it is believed that this objection has been rendered moot.

The Examiner also objected to the Abstract on the grounds that it did not relate to the articles now recited in the claims. Accordingly, the Abstract has been rewritten as requested by the Examiner. Support for the changes to the Abstract may be found at page 7, line 9 to page 8, line 12 and page 19, line 19 to page 20, line 23. No new matter has been entered and it is believed that this objection has been rendered moot.

Turning to the art rejections, the Examiner has rejected claims 25-27 and 32-35 under 35 U.S.C. 103(a) as being unpatentable over Madonia, et al. (United States Patent No. 4,546,022).

The present invention as presented herein is directed at a thin shell for an automotive interior trim panel, formed by double cast slush molding, comprising an inner and an outer layer wherein:

- the inner layer comprises a polymer material which comprise a formed article prior to its use (claim 25);
- the inner layer comprises a mixture of two or more different polymer formulations (claim 28); and
- the inner layer comprises a polymer which is more susceptible to ultraviolet degradation than the polymer material of the outer layer (claim 32).

Thus, utilizing a double casting apparatus and the recited methods a shell may be formed wherein the inner layer may be formed of, e.g., less expensive materials without compromising the relatively higher quality and relatively higher performance of the outer layer.

Madonia, et al. ('022) is directed at a continuous decorative molding suited for attachment to (**exterior**) sides of vehicles **consisting** of an extruded solid base section of **foamed** plastic material (item 12 in Fig. 1), a preformed cover layer (item 24 in Fig. 1) and a further protective skin layer portion (item 36 in Fig. 1) applied as a preformed thin skin. The preformed cover layer is said to be “applied to the hot base portion at or adjacent to the point of extrusion.” Col. 2, lines 41-43. The skin layer is said to supply resistance to UV degradation. Col. 2, lines 46-51. In addition, such configuration is said to require protective edge seals (item 38) along with mounting strips 37 for applying “the molding” in use. Col. 2, lines 52-54.

This art is now believed to be non-analogous to the present invention, and in addition, it is believed that such art does not render the invention herein as obvious under 35 USC 103.

More specifically, the present invention now recites an entirely different process, double slush casting, which obviates the need for the various requirements of Madonia et al. For example, unlike Madonia, one is not required to make certain that the outer covering “is applied to the hot base portion at or adjacent to the point of extrusion to provide good adhesion.” Madonia et al at col. 2, lines 41-43. Or stated another way, the outer layer in the present application is not applied as a preformed skin to the inner layer (as in ‘022) but rather the inner layer is formed behind the outer layer via the same technique: slush molding. And the fact that Madonia et al completely overlooked the fact that double-cast slush molding could be reliably utilized to make use of a second polymer which “comprises a formed article prior to its use” is believed to further distinguish the non-obvious characteristics of the invention now recited in amended claim 25.

Moreover, the critical use of calendaring in the ‘022 reference as applied to the need to utilize a preformed layer may be highlighted by the passage which recites “[t]he use of a pre-formed cover layer in combination with the foamed base yields additional, unobvious advantages in that the calendaring process by which the laminate is made permits perfect patterning over the whole face of the laminate.” Col. 1, lines 42-46 of the U.S. ‘022 patent. Therefore, calendaring a preformed cover layer, which is critical to the art of record, and which apparently was emphasized as a key non-obvious advantage, is completely avoided by the present invention.

Regarding claims 32-34, said claims also now recite the use of double-cast slush molding, along with the feature that the inner layer polymer formulation is more susceptible to UV degradation than the first polymer material (outer layer). Applicants incorporate by reference the arguments noted above where it is now hopefully clear that Madonia does not teach or suggest the use of double-cast slush molding and as noted, labors under the need of an

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additional step which is to first provide a preformed cover layer which is then calendered to a base portion “at or adjacent to the point of extrusion.” See again, col. 2, lines 41-45 of Madonia et al.

Turning to the Examiner’s combination of JP11300770A (or JP06255038A) with Madonia, et al. (‘022), the deficiencies of the primary reference of Madonia et al are noted above. Viewed in that context, it is believed that one of ordinary skill in the art, considering Madonia et al’s emphasis on extrusion, preformed layers, and calendaring and attaching at or near the point of extrusion, would not be inclined to consider the alternative methods as may be the case in the secondary references of JP 11300770A or JP06255038A.

Substantively considered, the secondary reference of JP11300770A is directed at a skin layer, pad layer **and core layer** construction for door trim manufactured by slush molding of **compatible thermoplastic resin**. While it states that the three layers may be recycled, it does not state that one of the layers may comprise a “formed article prior to its use.” See again, amended claim 25 of the present application.

Accordingly, while it may appear to be a somewhat subtle point, it is respectfully submitted that the Examiner statement at page 4 of the Office Action is not completely accurate. The Examiner wrote “JP 11300770 teaches door trims having a skin layer over recycled internal components (last sentence).” The last sentence of JP 11300770 reads as follows: “[s]ince the core, pad, skin layers are made of thermoplastic resin, recycling of the internal components is easy.” Applicants submit that the reference therefore only suggests that the internal components, i.e., the three layers (after formation) may be recycled together. However, it does not teach or suggest that a polymer material may be selectively recycled as an inner layer in a double slush casting process.

Regarding JP06255038A, this reference is directed at a **long part** for an **exterior trim** for an automobile, having a **core** layer, integrally formed of a synthetic resin rigid material with a surface layer of a soft synthetic resin material. The figures indicate that the surface layer 1' includes undercut sections to accommodate a second layer 2'. More specifically, the reference illustrates the use of an attachment device 3 which is attached with a flat button head that is accommodated by an undercut section which grips the flat button head, to hold the trim to the side of the automobile. It is respectfully submitted that one of ordinary skill in the art would understand that such undercuts are not capable of being formed by double-cast slush molding. See Fig. 2 of JP06225038A. In Fig. 3 of the subject reference the attachment device is integrally molded with the second layer. Again, one of ordinary skill in the art would understand that this cannot be formed by double cast slush molding.

Accordingly, even if Madonia, et al. ('022) and JP11300770A or JP06255038A are combined as suggested by the Examiner, the combination still does not teach or suggest the claimed invention.

The Examiner further rejected claims 28-31 and 35 under 35 U.S.C. 103(a) as being unpatentable over Hersman, et al. (USP 5,344,183) in view of Madonia, et al. The deficiencies of Madonia et al are noted above.

It is also now worth noting that amended claim 28 now recites that the second polymer material of the inner layer comprises a mixture of two or more different polymer formulations where said formulations differ with respect to the polymer component of said polymer formulations. As noted above, the Examiner may recognize that this is a limitation incorporated from dependent claim 29.

Hersman, et al. is commonly assigned to the assignee of the present invention. Hersman, et al. is directed at casting a first layer of **unreinforced** thermoplastic castable material as a decorative layer and then casting a second layer of thermoplastic castable material **and randomized reinforcing material mixed therein** cast on the first layer. Hersman, et al. thus requires “randomized reinforcing material” in the second layer. The present invention, as recited in amended claim 28, is now directed at the inner layer of a second polymer material further comprising “a mixture of two or more different polymer formulations.” Such feature of utilizing a second polymer material comprising a mixture of two or more different polymer formulations is not disclosed or suggested in Hersman et al.

Turning to Pickett, et al. (United States Patent No. 6,572,956), the Examiner has rejected claims 25-35 under 35 U.S.C. 103(a) as being unpatentable over Pickett, et al in view of Madonia, et al. The deficiencies of Madonia et al have been discussed above.

Pickett, et al is directed at a multi-layer article comprising a substrate layer and a coating layer, the coating layer comprising a thermoplastic polyester different from the substrate layer with the proviso that the coating layer and a 25 micron portion of the substrate layer nearest to said coating layer be substantially free from volatile organic compounds. At column 8, lines 44-56 Pickett identifies that the methods that are to be employed are co-injection, co-extrusion, overmolding, multi-shot injection molding, sheet molding, and in-mold decoration. Pickett, et al. is therefore not directed at double-cast slush molding wherein the inner layer comprises a polymer material which comprises a formed article prior to its use (see claim 25) or wherein the second polymer material comprises a mixture of two or more different polymer formulations wherein the formulations differ with respect to the polymer component (see claim 28) or double

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slush casting wherein the polymer material of the inner layer is more UV susceptible than the polymer of the outer layer (amended claim 32).

In consideration of the amendments to the claims and the remarks hereinabove, Applicants respectfully submit that all claims currently pending in the application are believed to be in condition for examination. Allowance at an early date is respectfully solicited.

In the event the Examiner deems personal contact is necessary, please contact the undersigned attorney at (603) 668-6560.

In the event there are any fee deficiencies or additional fees are payable, please charge them (or credit any overpayment) to our Deposit Account No. 50-2121.

Respectfully submitted,

/Steven J. Grossman/

Steven J. Grossman
Attorney for Applicant
Reg. No. 35,001
Grossman, Tucker, Perreault & Pfleger, PLLC
55 South Commercial Street
Manchester, NH 03101
Tel.: (603) 668-6560